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- (7) Engine speed detection. The analyzer shall utilize a tachometer capable of detecting engine speed in revolutions per minute (rpm) with a 0.5 second response time and an accuracy of  $\pm 3\%$  of the true rpm.
- (8) Test and mode timers. The analyzer shall be capable of simultaneously determining the amount of time elapsed in a test, and in a mode within that test.
- (9) Sample rate. The analyzer shall be capable of measuring exhaust concentrations of gases specified in this section at a minimum rate of twice per second.
- (c) Demonstration of conformity. The analyzer shall be demonstrated to the satisfaction of the inspection program manager, through acceptance testing procedures, to meet the requirements of this section and that it is capable of being maintained as required in appendix A to this subpart.

#### (II) Steady-State Test Dynamometer

- (a) The chassis dynamometer for steadystate short tests shall provide the following capabilities:
- (1) Power absorption. The dynamometer shall be capable of applying a load to the vehicle's driving tire surfaces at the horse-power and speed levels specified in paragraph (II)(b) of this appendix.
- (2) Short-term stability. Power absorption at constant speed shall not drift more than  $\pm 0.5$  horsepower (hp) during any single test mode.
- (3) Roll weight capacity. The dynamometer shall be capable of supporting a driving axle weight up to four thousand (4,000) pounds or greater.
- (4) Between roll wheel lifts. These shall be controllable and capable of lifting a minimum of four thousand (4,000) pounds.
- (5) Roll brakes. Both rolls shall be locked when the wheel lift is up.
- (6) Speed indications. The dynamometer speed display shall have a range of 0-60 mph, and a resolution and accuracy of at least 1 mph.
- (7) Safety interlock. A roll speed sensor and safety interlock circuit shall be provided which prevents the application of the roll brakes and upward lift movement at any roll speed above 0.5 mph.
- (b) The dynamometer shall produce the load speed relationships specified in paragraphs (III) and (V) of appendix B to this subpart.

# (III) Transient Emission Test Equipment [Reserved]

# (IV) Evaporative System Purge Test Equipment [Reserved]

# (V) Evaporative System Integrity Test Equipment [Reserved]

[57 FR 52987, Nov. 5, 1992, as amended at 58 FR 59367, Nov. 9, 1993]

APPENDIX E TO SUBPART S OF PART 51— TRANSIENT TEST DRIVING CYCLE

- (I) Driver's trace. All excursions in the transient driving cycle shall be evaluated by the procedures defined in §86.115–78(b)(1) and §86.115(c) of this chapter. Excursions exceeding these limits shall cause a test to be void. In addition, provisions shall be available to utilize cycle validation criteria, as described in §86.1341–90 of this chapter, for trace speed versus actual speed as a means to determine a valid test.
- (II) Driving cycle. The following table shows the time speed relationship for the transient IM240 test procedure.

Second	MPH
0	0
1	Ō
2	0
3	0
4	0
5	3
6	5.9
7	8.6
8	11.5
9	14.3
10 11	16.9 17.3
12	18.1
13	20.7
14	21.7
15	22.4
16	22.5
17	22.1
18	21.5
19	20.9
20	20.4
21	19.8
22	17
23	14.9
24	14.9
25 26	15.2 15.5
27	16.5
28	17.1
29	19.1
30	21.1
31	22.7
32	22.9
33	22.7
34	22.6
35	21.3
36	19
37	17.1
38	15.8
39	15.8
40	17.7
4142	19.8 21.6
43	23.2
44	24.2
45	24.6
46	24.9
47	25
48	25.7
49	26.1
50	26.7
51	27.5
52	28.6
53	29.3
54	29.8

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	Second	MPH		Second	MPH
55		30.1	129		20.9
56		30.4	130		20.4
		30.7			19.8
		30.7			17
		30.5 30.4			17.1   15.8
		30.3			15.8
		30.4			17.7
		30.8			19.8
		30.4			21.6
		29.9			22.2
		29.5 29.8			24.5 24.7
		30.3			24.7
		30.7			24.7
		30.9			24.6
		31	145		24.6
		30.9			25.1
		30.4			25.6
		29.8 29.9			25.7 25.4
		30.2			24.9
		30.7			25
		31.2			25.4
		31.8			26
		32.2			26
		32.4			25.7
		32.2 31.7			26.1 26.7
		28.6			27.3
		25.1			30.
		21.6			33.
37		18.1	161		36.2
38		14.6			37.3
		11.1			39.3
		7.6			40.5
		4.1 0.6			42.1 43.5
		0.0			45.1
		Ö			46
95		0	169		46.8
		0			47.
		0 3.3			47.5 47.5
		6.6			47.2
		9.9			47.2
		13.2			47.4
102		16.5	176		47.9
		19.8			48.
		22.2			49.
		24.3			49.
		25.8 26.4			50 50.6
		25.7			51
		25.1			51.
		24.7			52.2
		25.2			53.2
		25.4			54.
		27.2			54.6
		26.5 24			54.9 55
		22.7			54.9
		19.4			54.6
		17.7			54.6
		17.2			54.8
		18.1			55.
		18.6			55.
		20			55.
		20.7 21.7			56. 56.
		22.4			56.6
		22.5			56.
26		22.0			
		22.1			56.

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203         56           204         55           205         53.4           206         51.6           207         51.8           208         52.1           209         52.5           210         53           211         53.5           212         54           213         54.9           214         55.4           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           230         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5 <t< th=""><th>Second</th><th>MPH</th></t<>	Second	MPH
205         53.4           206         51.6           207         51.8           208         52.1           209         52.5           210         53.5           211         53.5           212         54           213         54.9           214         55.4           215         55.6           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         44           226         44.5           227         41           228         37.5           230         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	203	56
206         51.6           207         51.8           208         52.1           209         52.5           210         53           211         53.5           212         54           213         54.9           214         55.4           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           227         41           228         37.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	204	55
207         51.8           208         52.1           209         52.5           210         53           211         53.5           212         54           213         54.9           214         55.6           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         55.15           224         50.5           225         48           227         41           228         37.5           229         34           230         30.5           231         27           232         23           233         20           234         16.5           235         13           236         9.5           237         6           238         9.5           238         2.5	205	53.4
208         52.1           209         52.5           210         53.5           211         53.5           212         54           213         54.9           214         55.4           215         55.6           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           227         41           228         37.5           229         34           230         30.5           231         27           232         22.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	206	51.6
209         52.5           210         53           211         53.5           212         54           213         54.9           214         55.4           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           227         41           228         37.5           229         37.4           230         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	207	51.8
210         53           211         53.5           212         54           213         54.9           214         55.6           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           227         41           228         37.5           229         34           230         30.5           231         27           232         23.5           233         20           234         16.5           235         16.5           236         9.5           237         6           238         2.5	208	52.1
211         53.5           212         54           213         54.9           214         55.4           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           227         41           228         37.5           229         34           230         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	209	52.5
212     54       213     54.9       214     55.4       215     55.6       216     56       217     56       218     55.8       219     55.2       220     54.5       221     53.6       222     52.5       223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	210	53
213         54.9           214         55.4           215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           227         41           228         37.5           229         34           230         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	211	53.5
214       55.4         215       55.6         216       56         217       56         218       55.8         219       55.2         220       54.5         221       53.6         222       52.5         223       51.5         224       50.5         225       48         226       44.5         227       41         228       37.5         229       34         230       30.5         231       27         232       23.5         233       20         234       16.5         235       13         236       9.5         237       6         238       2.5	212	54
215         55.6           216         56           217         56           218         55.8           219         55.2           220         54.5           221         53.6           222         52.5           223         51.5           224         50.5           225         48           226         44.5           227         41           228         37.5           229         34           30         30.5           231         27           232         23.5           233         20           234         16.5           235         13           236         9.5           237         6           238         2.5	213	54.9
216     56       217     56       218     55.8       219     55.2       220     54.5       221     53.6       222     52.5       224     50.5       225     48       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	214	55.4
216     56       217     56       218     55.8       219     55.2       220     54.5       221     53.6       222     52.5       224     50.5       225     48       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	215	55.6
217     56       218     55.8       219     55.2       220     54.5       221     53.6       222     52.5       223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		56
218     55.8       219     55.2       220     54.5       221     53.6       222     52.5       223     51.5       224     50.5       225     48       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		56
220     54.5       221     53.6       222     52.5       223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		55.8
220     54.5       221     53.6       222     52.5       223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	219	55.2
221     53.6       222     52.5       223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	220	
223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		
223     51.5       224     50.5       225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	222	52.5
225     48       226     44.5       227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		51.5
226       44.5         227       41         228       37.5         229       34         230       30.5         231       27         232       23.5         233       20         234       16.5         235       13         236       9.5         237       6         238       2.5	224	50.5
227     41       228     37.5       229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	225	48
228     37.5       229     34       230     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	226	44.5
229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	227	41
229     34       230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	228	37.5
230     30.5       231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	229	
231     27       232     23.5       233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	230	
233     20       234     16.5       235     13       236     9.5       237     6       238     2.5		
233     20       234     16.5       235     13       236     9.5       237     6       238     2.5	232	23.5
235     13       236     9.5       237     6       238     2.5	233	
235     13       236     9.5       237     6       238     2.5	234	16.5
236       9.5         237       6         238       2.5		
237		
238		

[57 FR 52987, Nov. 5, 1992, as amended at 58 FR 59367, Nov. 9, 1993]

Subpart T—Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws

AUTHORITY: 42 U.S.C. 7401-7671q.

### $\S 51.390$ Implementation plan revision.

(a) Purpose and applicability. The federal conformity rules under part 93, subpart A, of this chapter, in addition to any existing applicable state requirements, establish the conformity criteria and procedures necessary to meet the requirements of Clean Air Act section 176(c) until such time as EPA approves the conformity implementation plan revision required by this subpart. A state with an area subject to this subpart and part 93, subpart A, of this chapter must submit to EPA a re-

vision to its implementation plan which contains criteria and procedures for DOT, MPOs and other state or local agencies to assess the conformity of transportation plans, programs, and projects, consistent with this subpart and part 93, subpart A, of this chapter. The federal conformity regulations contained in part 93, subpart A, of this chapter would continue to apply for the portion of the requirements that the state did not include in its conformity implementation plan and the portion, if any, of the state's conformity provisions that is not approved by EPA. In addition, any previously applicable implementation plan conformity requirements remain enforceable until the state submits a revision to its applicable implementation plan to specifically remove them and that revision is approved by EPA.

(b) Conformity implementation plan content. To satisfy the requirements of Clean Air Act section 176(c)(4)(E), the implementation plan revision required by this section must include the following three requirements of part 93, subpart A, of this chapter: §§ 93.105, 93.122(a)(4)(ii), and 93.125(c). A state may elect to include any other provisions of part 93, subpart A. If the provisions of the following sections of part 93, subpart A, of this chapter are included, such provisions must be included in verbatim form, except insofar as needed to clarify or to give effect to a stated intent in the revision to establish criteria and procedures more stringent than the requirements stated in this chapter: §§ 93.101, 93.102, 93.103, 93.104, 93.106, 93.109, 93.110, 93.111, 93.112, 93.113, 93.114, 93.115, 93.116, 93.117, 93.118, 93.119, 93.120, 93.121, 93.126, and 93.127. A state's conformity provisions may contain criteria and procedures more stringent than the requirements described in this subpart and part 93, subpart A, of this chapter only if the state's conformity provisions apply equally to non-federal as well as federal entities.

(c) Timing and approval. A state must submit this revision to EPA by November 25, 1994 or within 12 months of an area's redesignation from attainment to nonattainment, if the state has not previously submitted such a revision.